

N.B. : (1) Question No. 1 is compulsory.

(2) Attempt any **four** questions out of remaining **six** questions.

(3) Assume **suitable** data wherever **required**.

1. (a) What is the need for layering ? Discuss the design issues for layers. 10  
(b) Explain the ALOHA protocol. Compare the performance of Pure Aloha v/s Slotted Aloha at low load and high load. 10
2. (a) Explain different framing methods. What are the advantages of variable length frames over fixed length frames ? 10  
(b) Explain : FDMA, TDMA and CDMA. 10
3. (a) Explain sliding windows protocol with selective repeat. 10  
(b) Explain with a suitable example CRC algorithm for computing checksum. 10
4. (a) What are transport service primitives ? 10  
(b) How TCP controls the congestion, explain in detail. 10
5. (a) Differentiate between the following :- 10  
(i) Protocol and Interface  
(ii) Connectionless and connection oriented service.  
(b) What are different types of routing ? Explain any one in detail. 10
6. (a) Explain the different factors associated with quality of service in internetwork. 10  
(b) Describe the IPv4 header format in detail. 10
7. Write short notes on (any four) :- 20  
(a) SONET  
(b) Layer 2 v/s Layer 3 switching  
(c) Bluetooth  
(d) CIDR  
(e) Berkeley Socket.